

## WHAT IS CLAIMED IS:

1. A method of quantizing a bin value of a color histogram, the method comprising:
  - (a) dividing a bin value into  $N+1$  regions using  $N$  threshold values; and
  - (b) dividing and quantizing the divided regions uniformly and more finely with respect to each region that is nearer to zero.
2. The method according to claim 1, wherein a first threshold value of the  $N$  threshold values is zero or almost zero.
3. The method according to claim 1, wherein a first region of the  $N+1$  regions is regarded as one value.
4. The method according to claim 1, wherein at least one of the  $N+1$  regions is represented by a single value.
5. The method according to claim 1, wherein the  $N+1$  regions are non-uniform regions.
6. The method according to claim 1, wherein the number  $N$  of the threshold values is 5 and the  $N$  threshold values are set as follows:

a first threshold value (th1) is 0.000000001;

a second threshold value (th2) is 0.037;  
a third threshold value (th3) is 0.08;  
a fourth threshold value (th4) is 0.195; and  
a fifth threshold value (th5) is 0.32.

7. The method according to claim 6, wherein the number N of the threshold values is 5;

a first region ( $\leq$  th1) is regarded as one value;  
a second region ( $>$  th1 and  $\leq$  th2) is uniformly divided into 25 levels;  
a third region ( $>$  th2 and  $\leq$  th3) is uniformly divided into 20 levels;  
a fourth region ( $>$  th3 and  $\leq$  th4) is uniformly divided into 35 levels;  
a fifth region ( $>$  th4 and  $\leq$  th5) is uniformly divided into 35 levels; and  
a sixth region ( $>$  th5) is uniformly divided into 140 levels, and wherein the bin value is represented using a total of 256 levels.

8. The method according to claim 1, wherein the number N of the threshold values is 5;

a first region ( $\leq$  th1) is regarded as one value;  
a second region ( $>$  th1 and  $\leq$  th2) is uniformly divided into 25 levels;  
a third region ( $>$  th2 and  $\leq$  th3) is uniformly divided into 20 levels;  
a fourth region ( $>$  th3 and  $\leq$  th4) is uniformly divided into 35 levels;

a fifth region ( $> th4$  and  $\leq th5$ ) is uniformly divided into 35 levels; and

a sixth region ( $> th5$ ) is uniformly divided into 140 levels, wherein the bin value is represented using a total of 256 levels, where  $th1$ ,  $th2$ ,  $th3$ ,  $th4$  and  $th5$  are the threshold values and  $th1 \leq th2 \leq th3 \leq th4 \leq th5$ .

9. A method of quantizing a bin value of a color histogram, the method comprising:

(a) separating a bin value of a histogram of video or image data into  $N+1$  non-uniform regions using  $N$  threshold values; and

(b) representing a bin value within each of the regions uniformly, wherein the respective uniform bin value within said each region is smaller as the region is nearer to zero.

10. The method according to claim 9, wherein a first region that is nearest to zero is represented using a single bin value within the first region.

11. The method according to claim 9, wherein remaining regions other than a first region that is nearest to zero are uniformly divided by prescribed corresponding integers to obtain the bit value within said each of the regions.

12. The method of claim 11, wherein at least two of the prescribed corresponding integers are not equal in value.

13. The method according to claim 9, wherein the regions are separated by the N nonuniform threshold values ( $th_n$ ), wherein widths of regions that are closer to zero are narrower than those of regions that are farther away from zero, and wherein ( $th_{n+1} - th_n < th_{n+2} - th_{n+1}$  ( $1 \leq n \leq N$ )).

14. The method according to claim 9, wherein the regions are divided nonuniformly by the N threshold values and each of the nonuniformly divided regions is divided uniformly, and the bin values within the regions are represented with eight bits.

15. The method of claim 14, wherein the eight bits represent 256 values.

16. The method of claim 9, wherein the bin values within the regions are quantized.